US 20100154883A1

(19) **United States**

(12) **Patent Application Publication**

Komatsu et al.

(10) **Pub. No.: US 2010/0154883 A1**

(43) **Pub. Date: Jun. 24, 2010**

(54) **METHOD OF MANUFACTURING CRYSTALLINE SILICON SOLAR CELLS WITH IMPROVED SURFACE PASSIVATION**

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(21) Appl. No.: **12/442,935**

(22) PCT Filed: **Sep. 20, 2007**

(86) PCT No.: **PCT/NL2007/050459**

§ 371 (c)(1),
(2), (4) Date: **Feb. 26, 2010**

(30) **Foreign Application Priority Data**

Sep. 25, 2006 (NL) 2000248

Publication Classification

(51) **Int. Cl.**
H01L 31/0216 (2006.01)
C25D 7/12 (2006.01)
H01L 31/18 (2006.01)

(52) **U.S. Cl.** **136/256**; 205/157; 438/72; 438/97; 257/E31.119; 257/E31.003

(57) **ABSTRACT**

The present invention provides a method of manufacturing a crystalline silicon solar cell, comprising: —providing a crystalline silicon substrate having a front side and a back side; —forming a thin silicon oxide film on at least one of the front and the back side by soaking the crystalline silicon substrate in a chemical solution; —forming a dielectric coating film on the thin silicon oxide film on at least one of the front and the back side. The thin silicon oxide film may be formed with a thickness of 0.5-10 nm. By forming a oxide layer using a chemical solution, it is possible to form a thin oxide film for surface passivation wherein the relatively low temperature avoids deterioration of the semiconductor layers.